

**ABSTRACT**  
**FREQUENCY CONTENT SEPARATION USING COMPLEX FREQUENCY**  
**SHIFTING CONVERTERS**

5           A frequency separating system is described utilising tuneable frequency  
shifting complex converters in which the centre frequency of the band extracted and  
the bandwidth extracted can be varied depending upon the parameters chosen by the  
user. A single output band may contain multiple target carrier signals for separation  
using fine-tuning shaping filters. The local oscillators provide a stream of coefficient  
10 values for multiplying the digital signal sample values to perform part of the frequency  
extraction operation. These local oscillators may be numerically controlled oscillators  
with the stream of generated co-efficient values being selected from different sets of  
such coefficient values depending upon the desired frequency extraction.

15           [Figure 6A]